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WHAT IS CLAIMED IS:

1. An anodic zinc electrode for use in an alkaline based electrochemical cell, comprising:

- a current collector; and

- an active material composition applied to the current collector, wherein the active material composition includes Zn and ZnO, and wherein the weight ratio of the Zn to ZnO ranges from approximately 1-2 to approximately 1 which enables the anodic zinc electrode to be associated with an electrochemical cell assembled in a charged or discharged state.

2. The anodic zinc electrode according to claim 1, further comprising a zincate solubility modifier selected from the group consisting of $Be(OH)_2$, $Mg(OH)_2$, $Ca(OH)_2$, $Sr(OH)_2$, $Ba(OH)_2$, $Ra(OH)_2$, and mixtures thereof.

3. The anodic zinc electrode according to claim 1, further comprising a hydrogen gas suppressant selected from the group consisting of PbO, CdO, Bi_2O_3, In_2O_3, and mixtures thereof.

4. The anodic zinc electrode according to claim 1, further comprising a binding agent selected from the group consisting of CMC, PTFE, PVA, and mixtures thereof.

5. The anodic zinc electrode according to claim 1, wherein the weight ratio of the Zn to ZnO ranges from approximately 1.5-2:1.

6. The anodic zinc electrode according to claim 5, further comprising a zincate solubility modifier selected from the group consisting of $Be(OH)_2$, $Mg(OH)_2$, $Ca(OH)_2$, $Sr(OH)_2$, $Ba(OH)_2$, $Ra(OH)_2$, and mixtures thereof.

7. The anodic zinc electrode according to claim 5, further comprising a hydrogen gas suppressant selected from the group consisting of PbO, CdO, Bi_2O_3, In_2O_3, and mixtures thereof.

8. The anodic zinc electrode according to claim 5, further comprising a binding agent selected from the group consisting of CMC, PTFE, PVA, and mixtures thereof.

9. An electrochemical cell, comprising:

- a cathodic electrode;
- a separator/absorber;
- an alkaline electrolyte; and
- an anodic zinc electrode comprising:
  - a current collector; and
  - an active material composition applied to the current collector, wherein the active material composition includes Zn and ZnO, and wherein the weight ratio of the Zn to ZnO ranges from approximately 1-2 to approximately 1 which enables the anodic zinc electrode to be associated with an electrochemical cell assembled in a charged or discharged state.

10. The electrochemical cell according to claim 9, wherein the anodic zinc electrode further comprises a zincate solubility modifier selected from the group consisting of $Be(OH)_2$, $Mg(OH)_2$, $Ca(OH)_2$, $Sr(OH)_2$, $Ba(OH)_2$, $Ra(OH)_2$, and mixtures thereof.

11. The electrochemical cell according to claim 9, wherein the anodic zinc electrode further comprises a hydrogen gas suppressant selected from the group consisting of PbO, CdO, Bi_2O_3, In_2O_3, and mixtures thereof.

12. The electrochemical cell according to claim 9, wherein the anodic zinc electrode further comprises a binding agent selected from the group consisting of CMC, PTFE, PVA, and mixtures thereof.

13. The electrochemical cell according to claim 9, wherein the cathodic electrode comprises manganese dioxide.

14. The electrochemical cell according to claim 9, wherein the cathodic electrode comprises nickel-hydroxide and/or nickel-oxide.

15. The electrochemical cell according to claim 9, wherein the cathodic electrode comprises silver and/or silver-oxide.

16. The electrochemical cell according to claim 9, wherein the weight ratio of the Zn to ZnO ranges from approximately 1.5-2:1.

17. The electrochemical cell according to claim 16, wherein the anodic zinc electrode further comprises a zincate solubility modifier selected from the group consisting of $Be(OH)_2$, $Mg(OH)_2$, $Ca(OH)_2$, $Sr(OH)_2$, $Ba(OH)_2$, $Ra(OH)_2$, and mixtures thereof.

18. The electrochemical cell according to claim 16, wherein the anodic zinc electrode further comprises a hydrogen gas suppressant selected from the group consisting of PbO, CdO, Bi_2O_3, In_2O_3, and mixtures thereof.

19. The electrochemical cell according to claim 16, wherein the anodic zinc electrode further comprises a binding agent selected from the group consisting of CMC, PTFE, PVA, and mixtures thereof.

20. The electrochemical cell according to claim 16, wherein the cathodic electrode comprises manganese dioxide.

21. The electrochemical cell according to claim 16, wherein the cathodic electrode comprises nickel-hydroxide and/or nickel-oxide.

22. The electrochemical cell according to claim 16, wherein the cathodic electrode comprises silver and/or silver-oxide.

24. A method for manufacturing an anodic zinc electrode for use in an alkaline based electrochemical cell, comprising the steps of:

- providing a current collector;

- providing an active material composition, wherein the active material composition includes Zn and ZnO, and wherein the weight ratio of the Zn to ZnO ranges from approximately 1-2 to approximately 1 which enables the anodic zinc electrode to be associated with an electrochemical cell assembled in a charged or discharged state; and

- associating the active material composition with the current collector.

25. A method for manufacturing an anodic zinc electrode for use in an alkaline based electrochemical cell, comprising the steps of:

- providing a current collector;

- providing an active material composition, wherein the active material composition includes Zn and ZnO, and wherein the weight ratio of the Zn to ZnO ranges from approximately 1.5-2 to approximately 1 which enables the anodic zinc electrode to be associated with an electrochemical cell assembled in a charged or discharged state; and

- associating the active material composition with the current collector.